

### AMENDMENTS TO THE CLAIMS

1. (Currently amended) A network system for interconnecting a set of packet-switching network elements,  
the network system comprising a set of nodes ~~interface-units~~, each node configured to ~~interface unit interfacing~~ with one of the packet-switching network elements ~~interconnected by~~ ~~the network system~~ and providing a connection of ~~potentially~~ variable capacity to the other nodes ~~interface-units~~ of the network system;  
each one of the connections configured to transport ~~capable of transporting~~ data from its source node ~~interface-unit~~ to its destination node ~~interface-unit~~ and having an associated capacity and traffic load;  
the capacity of each connection controlled from its destination node ~~interface-unit~~ based at least in part on the traffic loads associated with the connections configured to transport ~~capable of transporting~~ data to that destination node ~~interface-unit~~.
2. (Currently amended) The network system of claim 1 wherein the system is configured to set the capacity of a connection to zero when the connection has no traffic load associated therewith and traffic loads associated with other connections to the same destination node cumulatively exceed a predefined limit can be zero for a period of time.
3. (Currently amended) The network system of claim 1 wherein the traffic loads and the capacities associated with the connections between the set of nodes ~~interface-units~~ are dynamic variables.
4. (Original) The network system of claim 1 where the capacities of the connections are cyclically optimized with a cycle time that is constant during regular system operation.
5. (Currently amended) The network system of claim 1 wherein a number, up to all, of the nodes ~~interface-units~~ are physically located at a single physical ~~node or~~ platform[[],] or are attached to a single ~~the same~~ chassis.

6. (Currently amended) The network system of claim 1 wherein one or more of the nodes interface units are integrated into their associated with the packet-switching network elements ~~they interface with~~.

7. (Currently amended) The network system of claim 1 wherein the system is that can be at least in part a sub-network of a multi-use or public network, with additional network elements, which do not actively participate in the operation of the thus created sub-network, potentially in pass-through mode either in between ~~of either~~ the nodes interface units or in between ~~[[of]]~~ the packet-switching network elements and the nodes interface units of the sub-network.

8. (Currently amended) The network system of claim 1 wherein one or more of the packet-switching network elements comprises a ~~is another~~ network system ~~accordant to the definition of as defined in claim 1, and wherein these claim 1 networks interface with each other through regular interface units, thus allowing to cluster a number of claim 1 networks together, potentially with a hierarchical architecture where one claim 1 network serves as an interconnect network among a number of claim 1 networks, thereby contributing to network scalability.~~

9-20. (Canceled)